## AMENDMENT TO THE CLAIMS

1. (previously presented) An apparatus to deliver a therapeutic agent to a vessel, comprising:

an elongated source of a therapeutic agent, the source having an amount or a concentration of the therapeutic agent that gradually decreases along a length of the elongated source from a point inward of a proximal end to or near the proximal end of the elongated source or from a point inward of a distal end to or near the distal end of the elongated source.

Claim 2 (canceled).

3. (previously presented) The apparatus of claim 1 wherein the source comprises a radioactive intravascular stent or a drug delivery stent.

Claim 4 (canceled).

5. (original) The apparatus of claim 1 wherein the source comprises a drug delivery stent having an anti-cell proliferation drug for treatment of the vessel.

6. (previously presented) An apparatus for delivering therapeutic radiation to a vessel, comprising:

an elongated radiation delivery source including a radioactive region thereon, the radioactive region having a proximal end and a distal end, and being capable of delivering a therapeutic level of radioactivity, wherein the radioactive region includes a segment gradually transitioning from the therapeutic level to a non-therapeutic level of radioactivity near the proximal end or the distal end of the radioactive region.

7. (previously presented) The apparatus of claim 6 wherein the radiation delivery source comprises an intravascular stent.

Claims 8 and 9 (canceled).

10. (original) The apparatus of claim 6 wherein the radioactive region comprises a

beta particle emitting isotope.

11. (original) The apparatus of claim 6 wherein the radioactive region comprises a gamma particle emitting isotope.

12. (original) The apparatus of claim 6 wherein the radioactive region comprises a beta particle and a gamma particle emitting isotope.

13. (previously presented) A method of producing a radioactive delivery source, comprising:

forming a radioactive region on a radioactive delivery source, the radioactive region having a proximal end and a distal end, and being capable of delivering a therapeutic level of radioactivity between the proximal end and the distal end; and

forming a radioactivity gradient within the radioactive region near the proximal end or the distal end of the region, the radioactivity gradient gradually transitioning from the therapeutic level of radioactivity to a non-therapeutic level of radioactivity.

14. (previously presented) The method of claim 13 wherein forming the radioactivity gradient comprises uniformly decreasing the radioactivity level from the therapeutic level to the non-therapeutic level.

15. (previously presented) The method of claim 13 wherein forming the radioactivity gradient comprises variably decreasing the radioactivity level from the therapeutic level to the non-therapeutic level.

16. (previously presented) The method of claim 13 wherein forming the radioactivity gradient comprises decreasing the radioactivity level by incremental steps from the therapeutic level to the non-therapeutic level.

17. (original) The method of claim 13 wherein forming the radioactive region comprises coating the delivery source with isotopes by ion beam implantation.

18. (previously presented) The method of claim 17 wherein forming the radioactivity

gradient comprises gradually decreasing an ion beaming time.

19. (original) The method of claim 13 wherein forming the radioactive region comprises coating the delivery source with isotopes by plasma implantation.

20. (previously presented) The method of claim 19 wherein forming the radioactivity gradient comprises masking the proximal end or the distal end of the radioactive region with radioactivity shields.

21. (previously presented) An intravascular stent for delivering therapeutic radiation to a vessel, comprising:

a radioactive region along an elongated length of a stent, the radioactive region having an area capable of delivering a substantially uniform dose of radioactivity to a vessel localized near a central portion of the stent, wherein the radioactive region includes a radioactivity gradient near a proximal end or a distal end of the radioactive region, the radioactivity gradient gradually decreasing the dose delivered to the vessel from a therapeutic level to a non-therapeutic level of radioactivity, and wherein the gradient decreases the dose from a point inward of the proximal end to or near the proximal end, or decreases the dose from a point inward of the distal end to or near the distal end of the radioactive region.

22. (previously presented) The stent of claim 21 wherein the radiation dose delivered to the vessel inhibits vessel cell proliferation along the elongated length of the stent and past the proximal end or the distal end of the stent.

23. (previously presented) The stent of claim 21 wherein the area capable of delivering the substantially uniform level of radioactivity comprises a greater longitudinal length than the gradient.

24. (previously presented) The stent of claim 21 wherein the gradient comprises a uniform rate of decrease of radioactivity level.

25. (previously presented) The stent of claim 21 wherein the gradient comprises a variable rate of decrease of radioactivity level.

26. (previously presented) The stent of claim 21 wherein the gradient comprises a decrease of radioactivity level by incremental steps.

27. (original) The stent of claim 21 wherein the radioactive region comprises a beta particle emitting isotope.

28. (original) The stent of claim 21 wherein the radioactive region comprises a gamma particle emitting isotope.

29. (original) The stent of claim 21 wherein the radioactive region comprises a beta and a gamma emitting particle isotope.

30. (previously presented) The stent of claim 21 wherein the dose of radioactivity comprises up to 60 Gray.

31. (previously presented) An intravascular stent for delivering a drug to a vessel, comprising:

a drug delivery region along an elongated length of a stent, the drug delivery region having a variable drug concentration thereon, wherein the drug delivery region includes an area of substantially uniform drug concentration localized near a central portion of the stent, and wherein the drug delivery region includes a drug concentration gradient near a proximal end or a distal end of the drug delivery region, the drug concentration gradient gradually decreasing from a therapeutic dose level to a non-therapeutic dose level, and wherein the gradient decreases from a point inward of the proximal end to or near the proximal end, or decreases from a point inward of the distal end to or near the distal end of the drug delivery region.

32. (previously presented) The stent of claim 31 wherein a drug dose delivered to the vessel inhibits vessel cell proliferation along the elongated length of the stent and past the

proximal end or the distal end of the stent.

Claims 33-36 (canceled).

37. (previously presented) A method of producing a drug source, comprising:

forming a drug region on a drug source, the drug region having a proximal end and a distal end, and having a therapeutic level of drug concentration between the proximal end and the distal end; and

forming a drug concentration gradient within the drug region near the proximal end and/or the distal end of the drug region, the concentration gradient gradually transitioning the drug concentration from the therapeutic level of drug concentration to a non-therapeutic level of drug concentration.

38. (previously presented) The method of claim 37 wherein forming the drug concentration gradient within the drug region comprises uniformly decreasing the drug concentration from the therapeutic level to the non-therapeutic level.

39. (previously presented) The method of claim 37 wherein forming the drug concentration gradient within the drug region comprises variably decreasing the drug concentration from the therapeutic level to the non-therapeutic level.

Claim 40 (canceled).

41. (previously presented) The method of claim 37 wherein forming the drug region comprises dipping the drug source in a drug or spraying a drug onto the drug source.

42. (previously presented) The method of claim 41 wherein forming the drug concentration gradient within the drug region comprises using masking techniques.

43. (original) The method of claim 37 wherein forming the drug region comprises coating the drug source with a drug.

44. (previously presented) The method of claim 37 wherein forming the drug concentration gradient within the drug region comprises spraying a drug composition onto the

drug source and varying the amount of the drug in the composition as the drug composition is sprayed onto the drug source.

Claim 45 (canceled).

46. (currently amended) A stent to deliver a therapeutic agent to a biological lumen, comprising a body and a therapeutic agent deposited on the body of the stent, wherein the concentration or amount of the therapeutic agent gradually changes by incremental segments along a length of the stent or at a constant rate along ~~the~~ a length of the stent.

47. (previously presented) The stent of Claim 46, wherein the therapeutic agent is a radioactive substance.

48. (previously presented) The stent of Claim 46, wherein the therapeutic agent is a drug.

49. (previously presented) The stent of Claim 48, wherein the drug is disposed in a polymeric coating.

50. (previously presented) The stent of Claim 46, wherein the concentration or amount of therapeutic agent gradually decreases from an area within a middle segment of the stent towards an end of the stent.

Claims 51 and 52 (canceled).

53. (previously presented) A method of producing a stent, comprising depositing a therapeutic agent onto a body of a stent, wherein the amount or concentration of the therapeutic agent deposited onto the body gradually changes along a length of the stent, and wherein the therapeutic agent is deposited so that the concentration or amount changes at a constant rate along the length of stent or in incremental segments along the length of the stent.

54. (previously presented) The method of Claim 53, wherein the therapeutic agent is a radioactive substance.

55. (previously presented) The method of Claim 53, wherein the therapeutic agent is a drug.

56. (previously presented) The method of Claim 53, wherein the drug is disposed in a polymeric coating.

57. (previously presented) The method of Claim 53, wherein the length is a segment of the stent in close proximity to one end of the stent.

58. (previously presented) The method of Claim 53, wherein the length is defined as any segment along a longitudinal length of the stent.

59. (previously presented) The method of Claim 53, wherein the therapeutic agent is deposited so that the concentration or amount gradually decreases from an area within a middle segment of the stent towards an end of the stent.

Claim 60 (canceled).

61. (previously presented) The method of Claim 53, wherein the therapeutic agent is disposed in a polymeric coating and the length is defined as any segment of the coating extending longitudinally from a first segment of the stent to a second segment of the stent.

Claim 62 (canceled).

63. (previously presented) A drug delivery stent, comprising:

a body having a first end and a second end and a middle segment between the first and second ends; and

a drug deposited on the stent, wherein the middle segment of the stent has more of the drug than the first or second end of the stent.

64. (previously presented) The stent of claim 63, wherein the drug is deposited in a polymeric coating.

65. (currently amended) A drug delivery stent, comprising:

a body having a first end and a second end and a middle segment between the first and second ends; and

a drug deposited along the middle segment of the stent, wherein the first or second end of the stent is free from the drug ~~any drugs~~.

66. (previously presented) The stent of Claim 65, wherein one of the first or second ends includes a drug deposited thereon.

67. (previously presented) A stent comprising a body having a first end, a second end and a middle segment, wherein a concentration of a drug carried by the stent is greater at the middle segment of the stent as compared to the first or second end.

68. (previously presented) The stent of claim 67, wherein the drug is carried by a polymeric coating.

69. (previously presented) A method of forming a coating on a stent, the stent comprising a body having a first end, a second end and a middle segment, the method comprising applying a composition having a drug to a selected portion of the stent to form a coating, wherein the concentration of the drug in the coating is greater at the middle segment as compared to the first or second end.

70. (previously presented) A method of producing a medicated stent, the stent comprising a first end, an opposing second end, and a middle segment between the two ends, the method comprising depositing a drug along the middle segment of the stent, wherein at least one of the ends is free from any drugs.

71. (previously presented) A method of producing a medicated stent, the stent comprising a first end, an opposing second end, and a middle segment between the two ends, the method comprising depositing a drug along the middle segment of the stent, wherein at least one of the two ends has less drug than the middle segment.

72. (previously presented) The method of Claim 71, wherein both ends have less drug than the middle segment.

73. (previously presented) The stent of Claim 31, wherein the drug delivery region contains a drug selected from the group consisting of an anti-inflammatory compound, an anti-proliferative compound, an anti-migratory compound, an inhibitor of matrix or collagen deposition, and an apoptosis inducer.

74. (previously presented) The method of Claim 37, wherein the drug region contains a drug selected from the group consisting of an anti-inflammatory compound, an anti-proliferative compound, an anti-migratory compound, an inhibitor of matrix or collagen deposition, and an apoptosis inducer.

75. (previously presented) The stent of Claim 48, wherein the drug is selected from the group consisting of anti-inflammatory compounds, anti-proliferative compounds, anti-migratory compounds, inhibitors of matrix or collagen deposition, and apoptosis inducers.

76. (previously presented) The method of Claim 55, wherein the drug is selected from the group consisting of anti-inflammatory compounds, anti-proliferative compounds, anti-migratory compounds, inhibitors of matrix or collagen deposition, and apoptosis inducers.

77. (previously presented) The stent of Claim 63, wherein the drug is selected from the group consisting of anti-inflammatory compounds, anti-proliferative compounds, anti-migratory compounds, inhibitors of matrix or collagen deposition, and apoptosis inducers.

78. (previously presented) The stent of Claim 65, wherein the drug is selected from the group consisting of anti-inflammatory compounds, anti-proliferative compounds, anti-migratory compounds, inhibitors of matrix or collagen deposition, and apoptosis inducers.

79. (previously presented) The stent of Claim 67, wherein the drug is selected from the group consisting of anti-inflammatory compounds, anti-proliferative compounds, anti-migratory compounds, inhibitors of matrix or collagen deposition, and apoptosis inducers.

80. (previously presented) The method of Claim 69, wherein the drug is selected from the group consisting of anti-inflammatory compounds, anti-proliferative compounds, anti-migratory compounds, inhibitors of matrix or collagen deposition, and apoptosis inducers.

81. (previously presented) The method of Claim 70, wherein the drug is selected from the group consisting of anti-inflammatory compounds, anti-proliferative compounds, anti-migratory compounds, inhibitors of matrix or collagen deposition, and apoptosis inducers.

82. (previously presented) The method of Claim 71, wherein the drug is selected from the group consisting of anti-inflammatory compounds, anti-proliferative compounds, anti-migratory compounds, inhibitors of matrix or collagen deposition, and apoptosis inducers.

Claims 83-85 (canceled).